

Remarks

The applicants thank the examiner for acknowledging that the proposed amendment in response to the final rejection was filed on May 22, 2008, which was within the 3 month time period for response.

The examiner rejected claims 1-12 and 14-17 under 35 U.S.C. §102(b) over U.S. Patent 6,132,664 (Freiberg) arguing that Freiberg discloses a moisture curable composition which cures to a rubber/elastomer. The examiner argues the composition of Freiberg consists essentially of an organopolysiloxane having not less than two silicon-bonded alkoxy/hydrolyzable groups and an alkoxy silane having the formula $R^4_zSi(OR)_{4-z}$ where z can be 0, 1, or 2 and that when z is equal to 2, the organosilane has the formula $G_2-Si-R^1_2$. The examiner further argues that Freiberg discloses that the composition further comprises a filler and a photocatalyst. However, the examiner admits that Freiberg does not disclose that the cured rubber has a surface with a maximum gloss value of 45.

Freiberg discloses a method of forming a seal in a confined configuration with a moisture curable . . . composition. The method comprises the steps of: (i) applying to a first substrate comprising a grooved substantially flat surface a moisture curable . . . composition, (ii) positioning the grooved substantially flat surface in occluding proximity with a substantially flat surface of a second substrate, so the . . . composition effects a seal therebetween; (iii) exposing the . . . composition to a detrimental temperature; and (iv) curing the composition (col. 2, lines 26-38). The composition of Freiberg comprises:

(A) polymers comprising on average at least 1.2 alkoxy silyl chain terminations per molecule described by the formula



where each R is independently selected from the group consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, and isobutyl, R^1 is selected from the group consisting of methyl and ethyl, and x is 0 or 1,

(B) a titanate compound comprising on average at least three alkoxy radicals bonded to titanium . . .

. . .

(C) an alkoxy silane described by formula



where each R^4 is independently selected from monovalent hydrocarbon radicals comprising from 1 to about 12 carbon atoms, each R is as defined above, and z is 0, 1, or 2, and

(D) a filler (col. 2, line 42-col. 3, line 16).

In the examples, Freiberg does not use any polymers or alkoxy silanes or any other species that contain vinyl or any other unsaturated group in the compositions. Freiberg teaches away from using titanate compounds having fewer than an average of three alkoxy radicals bonded to titanium (col. 2, line 42-col. 3, line 16 and col. 10, Example 2C). Freiberg does not disclose curing the compositions in the presence of light. Freiberg does not disclose any method for surface modification of cured products of the compositions. Freiberg does not teach or suggest any composition or method for preparing an elastomeric product having a surface with a maximum gloss value of 45. Freiberg discloses that alkoxy-functional RTV compositions containing titanium compounds comprising on average less than (sic) 3 alkoxy radicals bonded to the titanium, for example, dialkoxyethylacetate titanate chelate, may not cure when the . . . compositions are in thick sections, such as in grooves, in a confined configurations . . . These seals will likely fail after exposure to the elevated temperatures due to inadequate curing (col. 1, line 63 to col. 2, line 5).

A genus does not always anticipate a claim to a species within the genus (MPEP §2131.02). For example, In re Meyer, 599 F.2d 1026, 202 USPQ 175 (CCPA 1979) provided that ‘[a] reference disclosing “alkaline chlorine or bromine solution” embraces a large number of species and cannot be said to anticipate claims to “alkali metal hypochlorite.”’. Akzo N.V. v. International Trade Comm’n, 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986) provided that ‘[c]laims to a process for making aramid fibers using a 98% solution of sulfuric acid were not anticipated by a reference which disclosed using sulfuric acid solution but which did not disclose using a 98% concentrated sulfuric acid solution.’

The applicants respectfully disagree with the examiner’s construction of Freiberg and submit that the instant situation is analogous to that in In re Meyer. Freiberg discloses a large genus, not a genus of only two species as suggested by the examiner, and Freiberg does not suggest the invention claimed herein. The composition of this invention consists essentially of a) an organopolysiloxane having not less than two silicon-bonded hydroxyl or hydrolysable groups; b) a silane substantially having the formula $G_2 - Si - R^1_2$, wherein each group G is the same or different and is selected from the group consisting of alkoxy, acetoxy, oxime, and hydroxy groups, and each R^1 independently represents an alkyl group having from 1 to 10 carbon atoms, an alkenyl group, an alkynyl group an aryl group such as phenyl, or a fluorinated alkyl group; c) one or more fillers and d) a photocatalyst; wherein, when no R^1 group is either an alkenyl

or alkynyl group there is provided: e) an unsaturated compound selected from the group of an unsaturated short chain siloxane, an unsaturated cyclic siloxane, an unsaturated fatty acid, an unsaturated fatty alcohol and an unsaturated fatty acid ester. The composition is capable of cure to an elastomeric body has a surface with a maximum gloss value of 45.

No silane cross-linkers having the formula $G_3 - Si - R^1$ or $G_4 - Si$, where G and R^1 are present in the composition and method of the present invention [0020]. In contrast, Freiberg discloses a plurality of alkoxysilanes as being useful at col. 6, lines 47-57, and these include methyltrimethoxysilane, methyltriethoxysilane, phenyltrimethoxysilane, dodecyltrimethoxysilane, ethyltrimethoxysilane, ethyltriethoxysilane, and tetraethoxysilane, which represent numerous species outside the scope of the present invention, not to mention the partial hydrolyzates also mentioned by Freiberg. Freiberg discloses a large genus including many species for use as the cross-linker that fall outside the scope of the claims of this invention.

Furthermore, Freiberg discloses the titanate catalyst must have on average at least three alkoxy radicals bonded to titanium, preferably 3.6 to 4 alkoxy radicals bonded to titanium (col. 5, line 53 to col. 6, line 8). As shown in the comparative examples in the attached affidavit, when the catalyst of Example 1A is replaced with a preferred catalyst according to Freiberg, initial gloss is 45 (as compared to gloss of 22.6 in Example 1A according to the present invention). Furthermore, when the catalyst of example 4A is replaced with tetrabutyl titanate, which is a preferred catalyst according to Freiberg, initial gloss is 56, which is comparable to the gloss in example 4A in the original application. Therefore, one skilled in the art would not have a reasonable expectation of success to arrive at this invention based on the disclosure of Freiberg because he would not know which combination of components to choose to achieve the matte finish based on the disclosure of Freiberg.

Freiberg does not teach or suggest unsaturated groups are required, or provide any benefit, in the compositions of Freiberg. Freiberg suggests that unsaturated groups are NOT required because none of the examples of Freiberg employ any components with any unsaturated groups. In contrast, example 1 of this invention shows the unexpected benefit of improved gloss and surface modification by the incorporation of an unsaturated (e.g., vinyl containing) component (paragraph [0056]). By adding a vinyl containing dialkoxysilane cross linker component to example 1A, gloss improves to a value of 22.62 as compared to example 1B in which no unsaturated component is used and gloss is 82.74 (paragraph

[0057] and table). By adding a vinyl containing dialkoxy silane cross linker component to example 1A, gloss improves to a value of 22.62 as compared to example 4A, in which a trialkoxy silane crosslinker is used and gloss is 59.72 (paragraph [0062] and table).

In the office action dated 22 February 2008, the examiner seems to argue that the applicants must present evidence that the claimed composition and the composition of Freiberg are not substantially identical, and the examiner seems to further argue that the instant application contains inadequate disclosure as to how to obtain the claimed properties with the claimed ingredients. The applicants respectfully disagree because multiple examples and comparative examples are provided at paragraphs [0047] – [0072] showing how to select ingredients, combine them, and cure them to provide a cured product having an air-sealant interface surface with a maximum gloss value of 45.

For example, example 1A of this invention and comparative example 1B show the benefit of using an unsaturated group containing cross linker over a composition in which no unsaturated component is used. Example 1A has gloss of 22.62, but comparative example 1B has gloss of 82.74 (p. 20), thereby showing that Example 1A of the invention has a matte finish and comparative example 1B does not. Comparative example 1B is outside the scope of this invention but includes preferred polydiorganosiloxane and filler of Freiberg (at col. 3, lines 35-41 and 44-46; and col. 7, lines 1-11 and 15-17).

Examples 1A and 4 in this invention show the benefit of using an unsaturated dialkoxy silane crosslinker over a trialkoxy silane crosslinker. Example 2 shows the benefit of using ingredient e) in a composition in which ingredient b) does not contain an unsaturated group. With respect to claim 15, examples 7A, 1A, and 7B show the benefit of curing in the presence of light. For these reasons, claims 1-18 are novel and unobvious over Freiberg, and applicants have presented evidence of this.

The cited reference fails to disclose the specific combination of components claimed herein, benefit provided thereby, and how to combine the components to achieve the benefit. The instant invention is novel and unobvious. Therefore, the applicants request that the rejection under 35 U.S.C. §102(b) be withdrawn and the claims allowed to issue.

The examiner rejected claim 13 under 35 U.S.C. §103(a) over Freiberg in view of Altes for the same reasons as discussed above for claims 1 and 12 and because the examiner argues that Freiberg discloses

the composition and elastomeric product comprising the composition of claim 1. The examiner admits that Freiberg does not teach the addition of an air-sealant interface to the cured composition. The examiner further argues that Altes discloses sealant compositions having a siloxaphobic surface layer at the air-sealant interface. The examiner further argues that at the time of the invention, a person having ordinary skill in the art would have found it obvious to add the ingredient responsible for forming the surface layer of Altes to the composition of claim 1 and would have been motivated to do so because Altes discloses that the addition of such a component yields a cured sealant having excellent properties of dirt-repellency.

As discussed above, Freiberg discloses method of forming a seal in a confined configuration. The composition of Freiberg is applied in a groove on a flat substrate and placed in occluding proximity with a flat surface of a second substrate, heated, and cured after heating (col. 8, lines 24 – 26).

Altes discloses a room temperature curing polydimethylsiloxane composition (abstract). The composition contains a siloxaphobic agent of fluorocarbon alcohol or a reaction product of the fluorocarbon alcohol and a hydrolyzable silane (abstract). This ingredient provides a siloxaphobic surface layer covering the air interface of the room temperature cured polyorganosiloxane composition (col. 3, lines 21-30). The siloxaphobic surface layer hinders the formation of dirt build up or staining of the surface of the cured sealant (col. 5, lines 1-19).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure MPEP §2143. Even where the combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper MPEP §2143.01. The level of skill in the art cannot be relied upon to provide the suggestion to combine references MPEP §2143.01. The mere fact that references can be combined or modified does not render

the resultant combination obvious unless the prior art also suggests the desirability of the combination MPEP §2143.01.

One skilled in the art would not have been motivated to take an ingredient that forms a siloxaphobic surface layer at an air sealant interface from the composition of Altes and add that ingredient to a composition of Freiberg to be used in a method of Freiberg to form a seal in a confined configuration, wherein the composition is applied in a groove on a flat substrate and placed in occluding proximity with a flat surface of a second substrate because nothing in the disclosure of Freiberg teaches or suggests that modification of any air sealant interface is necessary or desirable. Furthermore, since the substrates of Freiberg are in occluding proximity to the composition, one skilled in the art would not expect the cured product of the composition used in the method of Freiberg to have an air sealant interface needing modification. For these reasons, the first criterion for establishing a *prima facie* case of obviousness has not been met.

The prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success MPEP §2143.02. At least some degree of predictability is required MPEP §2143.02. Evidence showing there was no reasonable expectation of success may support a conclusion of nonobviousness MPEP §2143.02. Whether an art is predictable or whether the proposed modification or combination of the prior art has a reasonable expectation of success is determined at the time the invention was made MPEP §2143.02.

Freiberg is directed to a method of forming a seal in a confined configuration. Altes is directed to a composition that forms a cured product that hinders formation of dirt build-up at the air interface. Nothing in Freiberg teaches or suggests forming a cured sealant with a matte finish is necessary or desirable because the seal formed by the method of Freiberg is between two substrates in occluding proximity with each other. Nothing in Altes teaches or suggests any method or ingredient for forming a cured sealant with a matte finish. Therefore, one skilled in the art would not have a reasonable expectation of success to arrive at this invention by removing a siloxaphobic layer forming ingredient from a composition of Altes and adding that ingredient to the composition used in the method for forming a seal in a confined configuration of Freiberg. One skilled in the art would not expect to arrive at the cured sealant having a maximum gloss value of 45 according to this invention by modifying the

method of Freiberg based on the disclosure of Altes. Therefore, the second criterion for establishing a *prima facie* case of obviousness has not been met..

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art MPEP §2143.03. All words in a claim must be considered in judging the patentability of that claim against the prior art MPEP §2143.03. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious MPEP §2143.03.

Adding an ingredient of Altes to a composition of Freiberg does not cure the defects in the method of Freiberg, which are discussed above. Neither Altes nor Freiberg teaches or suggests a cured sealant with an air-sealant interface surface with a maximum gloss value of 45 or any method for making such a cured sealant.

For the above reasons, the applicants request that the examiner withdraw the rejection of claim 13 under 35 U.S.C. §103(a) as being unpatentable over Freiberg in view of Altes because none of the criteria for establishing a *prima facie* case of obviousness has been met. The applicants request that the rejection under 35 U.S.C. §103(a) be withdrawn and the claims allowed to issue.

The examiner rejected claim 18 under 35 U.S.C. §103(a) over Freiberg in view of Mikami because the examiner argues that Freiberg discloses a composition containing ingredients (a), (b), and (c). The examiner further argues that Freiberg discloses a photocatalyst that can be a mixture of a dialkoxy-functional chelated titanate and a tetraalkoxy-functional chelated titanate. The examiner argues that the role of the dialkoxy-functional chelated titanate and a tetraalkoxy-functional chelated titanate is the same. The examiner admits that Freiberg does not disclose the addition of the unsaturated functional compound of this invention. The examiner further argues that Mikami discloses a room temperature curable composition which has an unsaturated fatty acid ester. The examiner concludes it would have been obvious for one of ordinary skill in the art to add the an unsaturated fatty acid ester of Mikami to the composition of Freiberg.

As discussed above, Freiberg discloses method of forming a seal in a confined configuration. The composition of Freiberg is applied in a groove on a flat substrate and placed in occluding proximity with a flat surface of a second substrate, heated, and cured after heating (col. 8, lines 24 – 26). Mikami

discloses a room temperature curable composition whose surface after curing resists soiling and which will not soil substrates in contact with the cured product (col. 1, lines 7-13).

One skilled in the art would not have been motivated to take an ingredient from the composition of Mikami that has a surface after curing that resists soiling and add that ingredient to a composition of Freiberg to be used in a method of Freiberg to form a seal in a confined configuration because nothing in the disclosure of Freiberg teaches or suggests that modification of any surface of the cured product is necessary or desirable. Furthermore, since the substrates of Freiberg are in occluding proximity to the composition, one skilled in the art would not expect the cured product of the composition used in the method of Freiberg to have or need a surface that resists soiling. Therefore, one skilled in the art would not have been motivated to modify the method of Freiberg based on the disclosure of Mikami, and the first criterion for establishing a *prima facie* case of obviousness has not been met.

Prior art must be considered in its entirety, including disclosures that teach away from the claims MPEP §2145 (X)(D), MPEP §2143.01. The proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference MPEP §2145 (X)(D), MPEP §2143.01. A prior art reference that “teaches away” from the claimed invention is a significant factor to be considered in determining obviousness MPEP §2145 (X)(D). It is improper to combine references where the references teach away from their combination MPEP §2145 (X)(D).

Adding an unsaturated ester fatty acid ester ingredient of Mikami to a composition of Freiberg does not cure the defects of Freiberg because Freiberg expressly teaches away from the photocatalyst of claim 18. Freiberg discloses that alkoxy-functional RTV compositions containing titanium compounds comprising on average less than (sic) 3 alkoxy radicals bonded to the titanium, for example, dialkoxyethylacetate titanate chelate, may not cure when the . . . compositions are in thick sections, such as in grooves, in a confined configurations . . . These seals will likely fail after exposure to the elevated temperatures due to inadequate curing (col. 1, line 63 to col. 2, line 5). The third criterion for establishing a *prima facie* case of obviousness has not been met.

For the above reasons, the applicants request that the examiner withdraw the rejection of claim 18 under 35 U.S.C. §103(a) as being unpatentable over Freiberg in view of Mikami because not all of the criteria

for establishing a *prima facie* case of obviousness has been met. The applicants request that the rejection under 35 U.S.C. §103(a) be withdrawn and the claims allowed to issue.

The examiner rejected claim 18 under 35 U.S.C. §103(a) over Freiberg in view of Hatanaka because the examiner argues that Freiberg discloses a composition containing ingredients (a), (b), and (c). The examiner further argues that Freiberg discloses a photocatalyst that can be a mixture of a dialkoxy-functional chelated titanate and a tetraalkoxy-functional chelated titanate. The examiner argues that the role of the dialkoxy-functional chelated titanate and a tetraalkoxy-functional chelated titanate is the same. The examiner admits that Freiberg does not disclose the addition of the unsaturated functional compound of this invention. The examiner further argues that Hatanaka discloses a room temperature curable composition which has fatty acid. The examiner concludes it would have been obvious for one of ordinary skill in the art to add the fatty acid of Hatanaka to the composition of Freiberg.

The applicants respectfully submit that claim 18 is not obvious over Freiberg in view of Hatanaka for the same reasons discussed above for Freiberg in view of Mikami. Adding a fatty acid of Hatanaka to a composition used in the method of Freiberg does not yield of the limitations of claim 18. Therefore, the applicants request that the examiner withdraw the rejection of claim 18 under 35 U.S.C. §103(a) as being unpatentable over Freiberg in view of Hatanaka because not all of the criteria for establishing a *prima facie* case of obviousness have been met. The applicants request that the rejection under 35 U.S.C. §103(a) be withdrawn and the claims allowed to issue.

The applicants hereby petition for any necessary extensions of time. You are authorized to charge deposit account 04-1520 for any fees necessary to maintain the pendency of this application. You are authorized to make any additional copies of this sheet needed to accomplish the purposes provided for herein and to charge any fee for such copies to deposit account 04-1520.

Respectfully Submitted,
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